Table 5. Feasibility of growing direct seeded onions in a minimum tillage (MT) system in muck land, Elba, 2011: Soil characteristics, available nitrate-nitrogen, nitrogen tissue analysis and complete soil nutrient analysis.

	Soil Characteristics		Available Nitrate-Nitrogen (lb/A)			Tissue Analysis	Complete Nutrient Analysis (lb/A)							
Date:	Jun 30		Jun 14	Jul 8	Aug 5	Aug 5	June 30							
Crop stage:	4-leaf		2 leaf	5 leaf	9 leaf	9 leaf	4 leaf							
	pH	% OM	NO$_3$-N	NO$_3$-N	NO$_3$-N	%N	P	K	Mg	Ca	Mn	Fe	Al	Zn
cv. Festival:														
Conventional	5.1	58.3	4.1 b[1]	21.0 c	30.0 b	3.2	88 b	866 c	2249	27786 a	77.4	2	29.0 a	20.4 b
MT-wheat	5.0	49.7	27.7 a	49.7 a	50.6 a	3.5	120 a	1011 b	2060	25326 b	71.2	2	23.4 b	18.7 c
MT-barley	5.1	51.5	24.9 a	32.9 b	40.0 ab	3.2	106 a	1316 a	2219	28164 a	79.8	2	32.8 a	21.7 a
p-value (α=0.05):	NS[2]	NS	0.0000	0.0000	0.0398	NS	0.0115	0.0000	NS	0.0003	NS	NS	0.0084	0.0007
cv. Safrane:														
Conventional	5.0	52.7 b	5.8 b	25.4 c	33.2	2.8	88 a	978 b	2349	29646	105.2 a	2	36.2	20.0
MT-wheat	5.0	55.0 a	27.1 a	48.1 b	47.4	3.2	99 ab	947 b	2182	29354	92.4 b	2	31.4	18.9
MT-barley	5.0	55.1 a	31.9 a	61.3 a	47.0	3.0	111 b	1228 a	2262	29352	100.4 ab	2	25.2	19.8
p-value (α=0.05):	NS	0.0078	0.0007	0.0000	NS	NS	0.0430	0.0100	NS	NS	0.0358	NS	NS	NS
Variety (pooled across tillage types):														
Festival	5.1 a	53.2	18.9	34.5 b	40.2	3.3 a	104	1064	2176	27092 b	76.1 b	2	28.4	20.3
Safrane	5.0 b	54.3	21.6	44.9 a	42.5	3.0 b	99	1051	2264	29451 a	99.3 a	2	30.9	19.6
p-value (α=0.05):	0.0056	NS	NS	0.0014	NS	0.0052	NS	NS	NS	0.0000	0.0000	NS	NS	NS
Tillage Type (pooled across varieties):														
conventional	5.1	55.5	5.0 b	23.2 b	31.6 b	3.0 b	88 b	922 b	2299	28716	91.3 a	2	32.6	20.2 a
MT-wheat	5.0	52.4	27.4 a	48.9 a	49.0 a	3.3 a	109 a	979 b	2121	27340	81.8 b	2	27.4	18.9 b
MT-barley	5.1	53.3	28.4 a	47.1 a	43.5 a	3.1 ab	108 a	1272 a	2241	28758	90.1 a	2	29.0	20.8 a
p-value (α=0.05):	NS	NS[3]	0.0000	0.0000	0.0080	0.0286	0.0072	0.0000	NS	NS	0.0117	NS	NS	0.0063
Variety*tillage interaction p-value (α=0.05)	NS	0.0237	NS	0.0005	NS	NS	NS	0.0469	NS	0.0001	NS	NS	0.0039	NS

[1]Numbers in a column followed by the same letter are not significantly different, Fisher's Protected LSD test, p<0.05. [2]NS: Not significant, according to Fisher's Protected LSD test, p>0.05. [3]Statistics runs on transformed data, y=log(x+1), untransformed values presented.